These measurements are transferred to a specially ruled paper and the several points connected to form the outline sought.

2. *The Abnormal and Degenerates.*—The author deplores the wide and ill-defined use of the word degenerate, and notes that as now used it is applied to conditions of the greatest diversity. He would restrict the use of the term to those cases only in which the cells present a disintegration, or at least a tendency to disintegration, under the influence of trivial causes. While to those cases in which there has been an abnormal development quantitatively, or in which normal tissues have developed in an abnormal way, he would apply the term abnormal.

Among the abnormal he would distinguish microcephaly and incomplete microcephaly—idiots savants. In this class would also appear those cases of faulty development characterized by abnormal symptoms during childhood, indications of abnormal associations, and manifesting mental disequilibration. These cases later become persecuted. [Evidently original paranoia is included here.]

The degenerates, on the other hand, are actually diseased. The mental symptoms are manifestations of mental enfeeblement—inability for sustained attention, lack of fixity of purpose, changing from one occupation to another, great vanity, etc. The degenerate is not insane actually, but potentially; but is liable to become alienated under the influence of alcohol, syphilis, or, more simply, from grief.

Conditions of abnormality and degeneracy may, however, be combined. Upon an abnormal basis degeneracy may manifest itself, and so we have what have been called the superior degenerates—men of superior intelligence, men of genius who become afflicted permanently or temporarily with mental disorders.

3. *Tactile Sensibility.*—The author concludes from experiments conducted on a subject before and after cerebral work that cerebral work diminishes tactile sensibility.

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JOURNAL DE NEUROLOGIE

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1. Experimental Researches on Motor Spinal Localizations. E. Brissaud and A. Bauer.

1. *Motor Spinal Localizations.*—In order to study the motor localizations in the cells of the anterior horn, the authors performed unilateral amputations of the hind limbs of tadpoles at varying periods from the time of their first appearance, until the animals had developed into frogs. The limbs were generally more or less completely reproduced and then reamputation was done, in some cases as often as three times. After the operation, at different periods running from eight days to 11 months in different cases, the animals were fixed, decalcified, embedded in paraffine, and serial sections colored by hemateine and eosin, by Van Gieson's, and by Nissl's methods, were studied. A diminution in volume of the cord on the side of the amputated limb was almost constantly found, and chromatolysis and atrophy of the cells of the anterior horn was present in very varying degree. The cells in the lumbar enlargement of the frog show a distinct arrangement into a medio-ventral and a lateral group. In amputation of the foot, the alterations affected the part of the cord between its lower end and the upper third of the segment between the tenth and the ninth lumbar roots, the cells of the lateral group being chiefly affected. In amputation of the leg below the knee, the alterations extended from the caudal end of the cord to a little above the ninth root. Up to the tenth root the whole group of cells was altered, above this,

the postero-external and a small part of the antero-external group was affected. In amputation of the thigh the alterations extended to the upper part of the segment between the ninth and eighth roots: All the group was altered up to the middle of the segment between the tenth and ninth roots. Above this sound cells gradually appeared antero-internally, until the degeneration was confined to the postero-external group.

From this it appears that there is segmental localization for the hind limbs in the cord of the frog. The cell groups for the different segments seem to be superimposed, and to have a sort of imbricated arrangement. The article is illustrated.

Allen (Trenton).

BRAIN

(Vol. 26, 1903, Spring, No. 1.)

1. The Autonomic Nervous System. J. N. Langley.
2. The Nerve Cells in Thirty-three Cases of Insanity, with Special Referference to Those of the Spinal Ganglia. John Turner.
3. Diagnostic Value of the Position of the Head in Cerebellar Disease. F. E. Batten.
4. Localization of the Respiratory and Cardiomotor Centre on the Frontal Cortex. J. W. Langelaan and D. H. Beyerman.
5. Pathology and Bacteriology of Landry's Paralysis. E. F. Buzzard.
6. Case of Tumor of the Axis, illustrating the Functions of the Third Cervical Spinal Segment. W. Thorburn and James Gardner.

1. *The Autonomic Nervous System.*—Langley here considers the general plan of the efferent system of nerves which controls the unstriated muscle, the cardiac muscle, and the glandular tissues of mammals. He further points out how far the plan holds for other vertebrates, and he discusses the question of the existence of an afferent system of nerves corresponding to the efferent system. Under the general head of "Efferent Fibres" he says that they constitute an autonomic nervous system. These leave the central nervous system in four regions which are separated from one another by regions from which no efferent autonomic fibres pass. These four regions are: (1) In the mid-brain, with fibres passing to the iris and ciliary muscles; (2) in the bulb below the calamus, from which fibres pass by the seventh nerve and by the glossopharyngeal and vagus nerves. These supply the blood vessels and glands of the mouth, pharynx and nose, the walls of the esophagus, stomach, small and large intestines; (3) the third region is in the spinal cord, and gives origin to the sympathetic efferent fibres; (4) the sacral fibres giving off nerves which supply the walls of the anus, rectum, the walls of the bladder and the genito-urinary organs. With reference to afferent fibres he shows that: (1) The afferent fibres accompanying the efferent autonomic are in part somatic; (2) that afferent autonomic fibres are present in all spinal and most cranial nerves; and (3) that all the posterior root ganglia contain autonomic as well as somatic nerve cells.

2. *Nerve Cells in Insanity.*—This is a careful study made by modern histological methods of the cells of the nervous system in thirty-three cases of insanity. The study is too detailed to permit of adequate summarizing.

3. *The Head, in Cerebellar Disease.*—As a result of the author's investigations, he comes to the following summary: (1) A definite attitude of the head is not infrequently seen in cases of cerebellar disease in man, that position being with the ear approximated to the shoulder on the side opposite to the lesion, and with the face turned up to the side of the lesion; (2) this position of the head, so far as the approximation of